

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants : Tyler J. Gomm, Frank Alejano      Attorney Docket No.: 501035.02 (30087/US/2)  
                  and Howard C. Kirsch  
Filed : Concurrently herewith  
Title : DELAY-LOCKED LOOP CIRCUIT AND METHOD USING A RING OSCILLATOR  
          AND COUNTER-BASED DELAY

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**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §§ 1.56 and 1.97 through 1.98, applicants wish to make known to the Patent and Trademark Office the references set forth on the attached form PTO-1449. This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior Application No. 09/989,209, filed November 19, 2001. The references listed on the attached Form PTO-1449 were submitted to and/or cited by the Patent and Trademark Office in this prior application and, therefore, are not required to be provided in this application. If the Examiner wishes, copies will be provided upon request. Although the aforesaid references are made known to the Patent and Trademark Office in compliance with applicants' duty to disclose all information they are aware of which is believed relevant to the examination of the above-identified application, applicants believe that their invention is patentable.

Applicants also wish to make known to the Patent and Trademark Office that an application, Serial No. 09/974,386, describing and claiming subject matter that is similar to the subject matter of this application, was filed on October 9, 2001. This related application, as well as any prior art cited therein, may be material to the examination of this application. A copy of this related application as filed is submitted herewith in accordance with 37 C.F.R. § 1.98(d).

Applicants also wish to make known to the Patent and Trademark Office that an application, Serial No. 10/269,398, describing and claiming subject matter that is similar to the subject matter of this application, was filed on October 10, 2002. This related application, which is a divisional of above-referenced Application No. 09/974,386, filed October 9, 2001, as well as any prior art cited therein, may be material to the examination of this application. The specification, claims, abstract and drawings of these related applications as filed are identical, therefore a duplicate copy is not submitted herewith.

Applicants also wish to make known to the Patent and Trademark Office that an application, Serial No. 10/176,865, describing and claiming subject matter that is similar to the subject matter of this application, was filed on June 20, 2002. This related application, as well as any prior art cited therein, may be material to the examination of this application. A copy of this related application as filed is submitted herewith in accordance with 37 C.F.R. § 1.98(d).

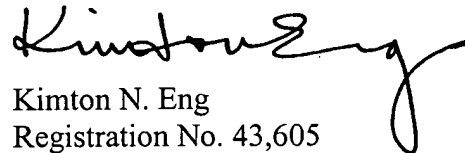
Applicants also wish to make known to the Patent and Trademark Office that an application, Serial No. 10/411,853, describing and claiming subject matter that is similar to the subject matter of this application, was filed on April 11, 2003. This related application, which is a divisional of above-referenced Application No. 10/176,865, filed June 20, 2002, as well as any prior art cited therein, may be material to the examination of this application. The specification, claims, abstract and drawings of these related applications as filed are identical, therefore a duplicate copy is not submitted herewith.

Applicants also wish to make known to the Patent and Trademark Office that an application, Serial No. 10/232,475, describing and claiming subject matter that is similar to the subject matter of this application, was filed on August 29, 2002. This related application, as well as any prior art cited therein, may be material to the examination of this application. A copy of this related application as filed is submitted herewith in accordance with 37 C.F.R. § 1.98(d).

Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Respectfully submitted,

DORSEY & WHITNEY LLP



Kimton N. Eng  
Registration No. 43,605

KNE:ajs

Enclosures:

Postcard  
Form PTO-1449  
Copies of Related Applications (3)

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FORM PTO-1449 (REV. 7-80)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 501035.02 (30087/US/2)	APPLICATION NO. Not Yet Assigned
<b>INFORMATION DISCLOSURE STATEMENT</b> <i>(Use several sheets if necessary)</i>		APPLICANT(S) Tyler J. Gomm, Frank Alejano and Howard C. Kirsch	
		FILING DATE Concurrently herewith	GROUP ART UNIT Not Yet Assigned

### U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,965,810	10/23/90	Peischl et al.	375	80	
	AB	5,077,686	12/31/91	Rubinstein	395	550	
	AC	5,233,316	08/03/93	Yamada et al.	331	45	
	AD	5,574,508	11/12/96	Diamant	348	511	
	AE	5,675,273	10/07/97	Masleid	327	156	
	AF	5,757,218	05/26/98	Blum	327	175	
	AG	5,910,740	06/08/99	Underwood	327	149	
	AH	5,946,244	08/31/99	Manning	365	194	
	AI	5,955,905	09/21/99	Idei et al.	327	160	
	AJ	6,069,508	05/30/00	Takai	327	161	
	AK	6,087,868	07/11/00	Millar	327	156	
	AL	6,107,891	08/22/00	Coy	331	18	
	AM	6,150,856	11/21/00	Morzano	327	149	
	AN	6,194,932 B1	02/27/01	Takemae et al.	327	158	
	AO	6,239,641 B1	05/29/01	Lee	327	270	
	AP	6,240,042 B1	05/29/01	Li	365	233	
	AQ	6,304,117 B1	10/16/01	Yamazaki et al.	327	158	
	AR	6,310,822 B1	10/30/01	Shen	365	233	
	AS	6,330,197 B1	12/11/01	Currin et al.	365	194	
	AT	6,340,904 B1	01/22/02	Manning	327	156	
	AU	6,373,307 B1	04/16/02	Takai	327	161	
	AV	6,378,079 B1	04/23/02	Mullarkey	713	401	
	AW	6,404,248 B1	06/11/02	Yoneda	327	158	
	AX	6,426,900 B1	07/30/02	Maruyama et al.	365	194	

EXAMINER

DATE CONSIDERED

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AY	6,445,231 B1	09/03/02	Baker et al.	327	158	
	AZ	6,480,047 B2	11/12/02	Abdel-Maguid et al.	327	161	
	BA	6,484,268 B2	11/19/02	Tamura et al.	713	600	
	BB	6,490,207 B2	12/03/02	Manning	365	194	
	BC	6,556,489 B2	04/29/03	Gomm et al.	365	194	
	BD	2002/0167346 A1	11/14/02	Yoon et al.	327	158	
	BE	2002/0176315 A1	11/28/02	Graaff	365	233	
	BF	2002/0180499 A1	12/05/02	Kim et al.	327	158	

### FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	BG							

### OTHER PRIOR ART *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	BH	Chae, Jeong-Seok et al., "Wide Range Single-Way-Pumping Synchronous Mirror Delay", IEEE Electronics Letter Online No. 20000711, February 11, 2000, pp. 939-940.
	BI	Jang, Seong-Jin et al., "A Compact Ring Delay Line for High Speed Synchronous DRAM, IEEE Symposium on VLSI Circuits Digest of Technical Papers, 1998, pp. 60-61.
	BJ	Kuge, Shigehiro et al., "A 0.18 $\mu$ m 256Mb DDR-SDRAM with Low-Cost Post-Mold-Tuning Method for DLL Replica", IEEE International Solid-State Circuits Conference, February 2000, pp. 402-403.
	BK	Kuge, Shigehiro et al., "A 0.18 $\mu$ m 256Mb DDR-SDRAM with Low-Cost Post-Mold-Tuning Method for DLL Replica", IEEE International Solid-State Circuits, Volume 35, No. 11, November 2000, pp. 1680-1689.
	BL	Saeki, Takanori et al., "A 2.5ns Clock Access 250MHz 256Mb SDRAM with a Synchronous Mirror Delay", IEEE International Solid-State Circuits Conference, February 1996, pp. 374-375.
	BM	Takai, Yasuhiro et al., "A 250Mb/s/pin 1Gb Double Data Rate SDRAM with a Bi-Directional Delay and an Inter-Bank Shared Redundancy Scheme, 1999.

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